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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GLENN MORRIS

Appeal 2008-0881
Application 10/629,971
Technology Center 2800

Decided: June 18, 2008

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY, and MARC S. HOFF, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-8 and 10-17. Claims 9 and 18 have been indicated as containing allowable subject matter (Ans. 2). We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellant invented an actuation system that enables remote actuation of a device using laser light transmitted over long distances. Specifically, a laser module transmits laser light that is detected by a receiver module. Upon detection of the laser light, an apparatus connected to the receiver module is actuated. Such a system improves upon the shortcomings found in radio controlled systems.[1] Claim 1 is illustrative:

1. A laser light actuation system for remotely and selectively actuating a function of a known apparatus, the system comprising:

a laser module adapted to produce a known laser light signal suitable for transmission over a long distance; and

a receiver module adapted to receive and detect the known laser light signal and selectively produce an actuation signal in response to the known laser light signal to selectively actuate such an apparatus, the receiver module further comprising a timer operatively associated with the receiver module to selectively limit the time of actuation of such an apparatus in response to the laser light signal.

The Examiner relies on the following prior art references to show unpatentability:

Schwartz	US 5,079,646	Jan. 7, 1992
Teetzel	US 5,526,749	Jun. 18, 1996
Teremy	US 5,541,695	Jul. 30, 1996
Perkins	US 2002/0124779 A1	Sep. 12, 2002
Kaje	US 2003/0122665 A1	Jul. 3, 2003
Zak	US 6,690,003 B2	Feb. 10, 2004 (filed Mar. 25, 2002)

[1] *See generally* Spec. ¶¶ 0002-15; Abstract.

1. Claims 1 and 10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zak.
2. Claims 2 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak and APA.
3. Claims 3 and 12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak and Teremy.
4. Claims 4 and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak and Schwartz.[2]
5. Claims 5 and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak, APA, and Schwartz.
6. Claims 6 and 15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak, Teremy, and Schwartz.
7. Claims 7 and 16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zak and Teetzel.
8. Claims 8 and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kaje in view of Official Notice, as evidenced by Perkins.

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Brief[3] and the Answer for their respective details. In this decision, we have considered only those arguments actually made by

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[2] The Examiner rejects claims 4-6 and 13-15 in the same paragraph based on combining Schwartz with Zak, and either Teremy or APA depending on the claims rejected (Ans. 5). In effect, this paragraph presents three separate rejections of (1) claims 4 and 13; (2) claims 5 and 14; and (3) claims 6 and 15. For clarity, we separately list each of these rejections as Rejection Numbers 4 through 6, respectively.

[3] We refer to the most recent Brief filed August 21, 2006 throughout this opinion.

Appellant. Arguments which Appellant could have made but did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

The Anticipation Rejection

We first consider the Examiner's anticipation rejection of claims 1 and 10 over the disclosure to Zak (Ans. 3). Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. App. Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore and Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983).

Regarding representative claim 1,[4] Appellant argues that Zak does not disclose the receiver module comprising a timer operatively associated with the receiver module to selectively limit the time of actuation of a known apparatus in response to a light signal, as claimed. Although Appellant acknowledges that Zak teaches using a monostable multivibrator to achieve a timed ON or timed OFF operation, Appellant contends that this is not the same as *selectively limiting the time of actuation* (Br. 5-7; emphasis in original).

[4] Appellant argues claims 1 and 10 together as a group. *See* Br. 5-7. Accordingly, we select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner disagrees, and notes that the selection of the timer (i.e., the monostable multivibrator) is achieved by the receiver unit's reception of the laser light signal (Ans. 8-9).

The issue before us, then, is whether Appellant has shown that the Examiner erred in finding that Zak anticipates representative claim 1. The issue turns on whether Zak's receiver module with timed ON and OFF functionality actuated by laser light fully meets a timer operatively associated with the receiver module to selectively limit the time of actuation of a known apparatus in response to a light signal, as claimed. We find that it does.

Zak discloses a laser-actuated "remote operator" that enables the user to remotely control various devices. As shown in Figure 1, a hand-held laser device 10 emits a narrow beam of radiation at a certain wavelength that is aimed at a "remote operator" 20. The remote operator is essentially a laser-actuated switch comprising a photosensor 24, switch actuator circuit 28, and a power relay circuit 30. Upon detection of incoming laser radiation, the photosensor 24 actuates or triggers the switch actuator circuit which is a toggle-type flip flop that changes state (i.e., between on and off) each time it receives a signal from the photosensor. This actuation is coupled to the power relay circuit which, in turn, actuates electrical load devices connected thereto (Zak, col. 2, ll. 1-13; col. 2, l. 55 - col. 3, l. 25; Fig. 1).

In the switch actuator circuit, a monostable multivibrator can be used to achieve a timed ON actuation, at the end of which the load device is automatically switched off. Similarly, this device can provide a timed OFF or timed interrupt operation (Zak, col. 3, ll. 17-21).

Based on this functionality, we agree with the Examiner that Zak fully meets the limitations of representative claim 1. As the Examiner indicates (Ans. 8), the timed ON operation, in effect, limits the time of actuation of the apparatus connected to the remote operator (i.e., the load device to be controlled). Furthermore, this timer is responsive to the detected laser light signal emitted from the laser device 10.

Significantly, the fact that the user in Zak can *selectively* turn the load device on or off for a predetermined time period via the laser pointer, in effect, means that the time of actuation is likewise selectively limited. That is, when the user actuates the device via the laser pointer, the device's actuation time is likewise selected (and therefore limited via this selection). Nothing in the claim requires that different time periods are selected via the laser light signal.

That a monostable multivibrator can be used to achieve such timed actuation in Zak does not affect our conclusion. Apart from providing a definition of a monostable multivibrator from Wikipedia (Br. 6 n.1), Appellant has simply not persuasively shown why such devices would not or could not selectively limit the time of actuation of the apparatus as noted above. For these reasons alone, Appellant has not persuaded us of error in the Examiner's interpretation of Zak with respect to the limitations of representative claim 1.

Nevertheless, we further note that the table lamp embodiment of Figure 3 of Zak provides yet another illustration of such user selectivity. As shown in Figure 3, the lamp 50 is plugged into remote actuator 20 which, in turn, is plugged into a standard AC wall outlet 34 (Zak, col. 3, ll. 48-65; Fig. 3). Clearly, the user can simply plug the lamp in the wall outlet 34 and turn

on the lamp in the conventional manner.[5] In this case, the lamp would remain on until manually turned off. Alternatively, the user can plug the lamp into the receiver module 20 and, when actuated via the laser module, limit its time of actuation via the timer functionality noted above. In this case, the user has *selectively* limited the lamp's time of actuation via the timer.

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 1. Therefore, we will sustain the Examiner's rejection of that claim, and claim 10 which falls with claim 1.

The Obviousness Rejection of Claims 2 and 11

We now consider the Examiner's obviousness rejection of claims 2 and 11 over Zak and APA (Ans. 3-4). In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

[5] Zak also notes that a push button switch is provided on the housing 22 of the remote actuator module 20 to permit manual actuation to turn the lamp on or off (Zak, col. 3, ll. 58-60). Furthermore, in the embodiment of Figure 1, Zak discloses that the switch actuator circuit also comprises a manual override switch 32 that permits actuation without the use of the laser device 10, when desired (Zak, col. 3, ll. 25-27).

Discussing the question of obviousness of a patent that claims a combination of known elements, the Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) explains:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [*v. AG Pro, Inc.,* 425 U.S. 273 (1976)] and *Anderson's-Black Rock*[*, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 127 S. Ct. at 1740. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that "there was an apparent reason to combine the known elements in the fashion claimed." *Id.* at 1740-41. Such a showing requires:

> "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 1741 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

If the Examiner's burden is met, the burden then shifts to the Appellant to overcome the prima facie case with argument and/or evidence.

Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Regarding representative claim 2,[6] Appellant reiterates the arguments made with respect to the alleged shortcomings of Zak (Br. 7). Appellant also contends that the Examiner's motivation to modify Zak to include an electromechanical feeder as in APA is insufficient to establish a prima facie case of obviousness since, among other things, the Examiner's motivation is not supported by evidence that ordinarily skilled artisans would make such a modification. As such, Appellant contends, the Examiner's motivation "appears to have been gleaned from Appellant's disclosure" (Br. 7-9).

The Examiner notes that Zak teaches controlling a wide variety of apparatus including, among other things, lamps, ceiling fans, dimmer switches, and factory and industrial equipment. In light of this broad application, the Examiner takes the position that ordinarily skilled artisans would have therefore found Zak's remote control device to be applicable to agricultural environments (e.g., electromechanical feeders as in claim 2) (Ans. 9-10).

The issue before us, then, is whether Appellant has shown that the Examiner erred in combining the teachings of APA with Zak. The issue turns on whether there has been a showing that there was an apparent reason to combine the known elements in the fashion claimed. For the following reasons, we find ample reason to combine these teachings in the manner proposed by the Examiner.

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[6] Appellant argues claims 2 and 11 together as a group. Accordingly, we select claim 2 as representative.

At the outset, our previous discussion regarding Zak applies equally here and we therefore incorporate that discussion here by reference. In the disclosure of the present application, Appellant admits that remote actuating systems for electromechanical feeders using transmitted and received radio signals are well known in the art (Spec. ¶¶ 0002, 0005; Fig. 1).

In our view, there is ample reason on this record to combine the teachings of the APA with Zak. First, as the Examiner indicates, Zak envisions using a laser to control a wide variety of devices, including industrial devices (Zak, col. 27-46; Fig. 6). Indeed, Zak indicates in the Abstract that not only can the remote operator control ceiling fans, wall switches, table lamps, but also "*any other device* in need of remote controlled operation" (Zak, Abstract; emphasis added). In short, Zak's intent to utilize the disclosed laser-actuated remote operator in a wide variety of devices and applications involving remote control could not be clearer.

Furthermore, Zak in the Background section of the patent describes the shortcomings of radio-frequency (RF) remote operation which include, among other things, susceptibility to RF interference, jamming, RF traffic, and noise, as well as having a limited range (Zak, col. 1, ll. 30-41, 64-67).

Based on the record before us, we agree with the Examiner that ordinarily skilled artisans would have ample reason to apply Zak's teachings to an electromechanical feeder to, among other things, control the feeder remotely via laser light thus avoiding the known shortcomings of radio control noted above. Such a showing, in our view, clearly evidences "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See KSR,* 127 S. Ct. at 1741. For this reason

alone, Appellant has not shown error in the Examiner's proposed combination of references.

We further note that the combination of the collective teachings of Zak and APA is tantamount to the predictable use of prior art elements according to their established functions -- an obvious improvement. *See KSR*, 127 S. Ct. at 1740. In our view, ordinarily skilled artisans would have recognized that replacing the radio remote control functionality of the APA system shown in Figure 1 of the present application with a laser light actuation system as in Zak would have yielded the predictable result of an optical remote control system that overcomes the shortcomings of radio control systems, namely susceptibility to RF interference, jamming, RF traffic, and noise.

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 2. Therefore, we will sustain the Examiner's rejection of that claim, and claim 11 which falls with claim 2.

The Obviousness Rejection of Claims 3 and 12

We now consider the Examiner's obviousness rejection of claims 3 and 12 over Zak and Teremy (Ans. 4-5). Regarding representative claim 3,[7] Appellant reiterates the arguments made with respect to the alleged shortcomings of Zak (Br. 9-10). Appellant also contends that the Examiner's motivation to modify Zak to in light of the teachings of Teremy is insufficient to establish a prima facie case of obviousness since, among

[7] Appellant argues claims 3 and 12 together as a group. Accordingly, we select claim 3 as representative.

other things, the Examiner's motivation does not provide reasons that skilled artisans confronted with the same problems as the inventor, and with no knowledge of the claimed invention, would modify Zak to arrive at the claimed invention. According to Appellant, there is no motivation to control the brightness of Zak's laser beam, as is done in Teremy, since Zak merely pertains to activating a remote device (Br. 10-13).

The Examiner notes that ordinarily skilled artisans would have recognized that certain controlled loads in Zak have different operating states (e.g., different brightness settings for the table lamp, different fan speeds). According to the Examiner, Teremy was relied on for teaching modulating a laser light signal differently with respect to a given action to be performed (i.e., a first transmission state for one type of function, and a second transmission state for a different function). As such, the Examiner takes the position that combining this teaching with Zak would have suggested transmitting multiple states from the laser transmitter to the receiver for different operating states of the controlled devices (e.g., the different brightness settings of the lamp or different fan speed settings) (Ans. 10-13).

The issue before us, then, is whether Appellant has shown that the Examiner erred in combining the teachings of Teremy with Zak to arrive at the claimed invention. The issue turns on whether there was an apparent reason to combine the known elements in the fashion claimed. For the following reasons, we find ample reason to combine these teachings in the manner proposed by the Examiner.

Teremy discloses a camera 14 with a laser remote controller 10. The remote controller transmits laser radiation towards the camera in a first state

(i.e., a relatively bright beam) for aiming purposes and to commence initial camera functions. The controller also transmits a dimmer laser beam (i.e., a second state) for actuating image recording functions at the camera responsive to detecting the dimmer beam. As shown in Figure 4, the electrical current driving the laser diode for the first brighter state is pulsed on for a longer duration as compared to the second dimmer state shown in Figure 5 (Teremy, Abstract, col. 2, l. 60 - col. 3, l. 12; col. 3, l. 55 - col. 4, l. 12; Figs. 1, 2, 4, 5).

We agree with the Examiner that ordinarily skilled artisans would have reasonably applied such a teaching to Zak's laser-based remote control system, particularly since Zak strongly suggests controlling different lamp intensities (Zak, col. 4, ll. 12-17) and fan speeds (Zak, col. 4, ll. 3-6). These different intensities and speeds, in our view, reasonably correspond to different functional states of the controlled device. Therefore, ordinarily skilled artisans, in our view, would have recognized that by providing sparsely modulated laser light signals associated with a respective state as taught by Teremy, the receiver module in Zak could distinguish the control of one state from another from the laser beam itself. This reasoning, in our view, clearly evidences "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See KSR,* 127 S. Ct. at 1741. For this reason alone, Appellant has not shown error in the Examiner's proposed combination of references.

We add that providing a known, sparsely modulated laser signal in Zak would have also been tantamount to the predictable use of prior art elements according to their established functions -- an obvious improvement. *See KSR*, 127 S. Ct. at 1740. In addition to the reasons

above, we further note that skilled artisans would recognize that such an improvement would also yield other predictable results, namely reducing power requirements of producing the laser beam itself. Specifically, modulating a laser signal from the laser source (e.g., by pulsing it on and off) would, among other things, yield the predictable result of reducing power requirements for the laser source by precluding the need for a continuous beam. Therefore, adapting the laser module of Zak to produce a known, sparsely modulated laser light signal is tantamount to the predictable use of prior art elements according to their established functions.[8]

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 3. Therefore, we will sustain the Examiner's rejection of that claim, and claim 12 which falls with claim 3.

The Obviousness Rejections of Claims 4-6 and 13-15

We now consider the Examiner's obviousness rejections of claims over 4-6 and 13-15 over Zak, APA, Teremy, and Schwartz (Ans. 5). Regarding representative claim 4,[9] Appellant reiterates the previous

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[8] Although the Examiner alleges that there is no motivation to modify Zak to change the brightness of the laser beam (Ans. 11), we disagree for the reasons noted in this paragraph, and in light of the U.S. Supreme Court's ruling in *KSR* which was decided after the Examiner's Answer was mailed.

[9] Appellant argues claims 4-6 and 13-15 together as a group. *See* Br. 14-20. Nevertheless, since the statement of the Examiner's rejections (Ans. 5), in effect, presents us with three different rejections as noted on page 3 n.5, *supra*, of this opinion, we treat each these rejections separately. We therefore select claim 4 as representative of the claim grouping of claims 4 and 13 that pertains to the first rejection based on Zak, APA, and Schwartz. Furthermore, since Appellant has not argued the other rejections separately,

arguments regarding Zak, but adds that the Examiner's motivation to modify Zak to include a telescopic sight operatively associated with laser module as claimed is insufficient to establish a prima facie case of obviousness since, among other things, the Examiner's motivation is not supported by evidence that ordinarily skilled artisans would make such a modification. As such, Appellant contends, the Examiner's motivation "appears to have been gleaned from Appellant's disclosure" (Br. 14-19). Appellant also argues that Schwartz is non-analogous art (Br. 19-20).

The Examiner notes that Zak teaches using the laser device for factory and industrial devices which enable remote actuation of devices located high above a factory floor. According to the Examiner, adding a telescopic sight in conjunction with the laser light source as taught by Schwartz would have therefore been obvious to ordinarily skilled artisans for more accurate sighting of distant targets. The Examiner further argues that Schwartz's teachings are in fact analogous since they pertain to aligning a laser light beam towards a target (Ans. 13-16).

The issue before us, then, is whether Appellant has shown that the Examiner erred in combining the teaching of Schwartz with the teachings of the cited prior art. The issue turns on (1) whether there was an apparent reason to combine the known elements in the fashion claimed, and (2) whether Schwartz constitutes analogous art. For the following reasons, we answer "yes" to both of these questions.

Schwartz discloses in the Background section of the patent providing laser light sources that emit a narrow beam of light impinging on the target

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our rationale with respect to the merits of the rejection of claim 4 applies to the other rejections as well.

of interest in conjunction with optical telescopes. Such an arrangement, among other things, enhances alignment (Schwartz, col. 1, ll. 39-46; col. 1, l. 62 - col. 2, l. 6).

Based on the record before us, we agree with the Examiner (Ans. 14) that skilled artisans would recognize that providing a telescopic sight in conjunction with the laser light source would at least enhance optical alignment of the laser source with the target. Clearly, the user in Zak must aim the laser source at the target receiver device to actuate the attached devices as shown in Figures 1 and 3 of Zak. As the distance between the laser source and the target increases, the possibility of misalignment likewise increases. Providing a telescopic sight in conjunction with the laser source would, in our view, achieve the predictable result of enhancing the alignment of the source with the target. As the Examiner indicates, the fact that Zak specifically uses the device to actuate devices located high above factory floors only reinforces our conclusion that using a telescopic sight to enhance alignment in such situations would have been desirable -- and indeed predictable -- based on the record before us.

We also agree with the Examiner that Schwartz is analogous art. "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). While Schwartz is primarily directed to weapons with telescopic sights, the Background of the reference nonetheless generally teaches emitting laser light in conjunction with a telescopic sight for

alignment purposes. Notwithstanding this relevance, even if we assume, without deciding, that Schwartz is not in the same field of Appellant's endeavor, we nonetheless find that Schwartz is reasonably pertinent to Appellant's problem with respect to representative claim 4, namely selectively directing laser radiation to a target in conjunction with a telescopic sight. Appellant has therefore not persuaded us of error in the Examiner's reliance on the teachings of Schwartz.

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 4. Therefore, we will sustain the Examiner's rejection of that claim over Zak and Schwartz, and claim 13 which falls with claim 4. We will also sustain the Examiner's rejections of (1) claims 5 and 14 over Zak, APA, and Schwartz; and (2) claims 6 and 15 over Zak, Teremy, and Schwartz for similar reasons.

The Obviousness Rejection of Claims 7 and 16

We now consider the Examiner's obviousness rejection of claims 7 and 16 over Zak and Teetzel (Ans. 6). Regarding representative claim 7,[10] Appellant reiterates the previous arguments regarding Zak, but adds that the Examiner's motivation to modify Zak to include a detonator operatively associated with the receiver module and selectively actuated as claimed is insufficient to establish a prima facie case of obviousness since, among other things, the Examiner's motivation is not supported by evidence or reasons why ordinarily skilled artisans would make such a modification (Br. 21-24).

[10] Appellant argues claims 7 and 16 together as a group. *See* Br. 20-24. Accordingly, we select claim 7 as representative.

The Examiner reiterates that Zak's teaches controlling a wide variety of apparatus including, among other things, lamps, ceiling fans, dimmer switches, and factory and industrial equipment. In light of this broad application, the Examiner takes the position that ordinarily skilled artisans would have therefore found Zak's remote control device to be applicable to military environments (e.g., remote detonation devices) such as that disclosed by Teetzel (Ans. 16-17).

The issue before us, then, is whether Appellant has shown that the Examiner erred in combining the teaching of Teetzel with the teachings of Zak. The issue turns on whether there was an apparent reason to combine the known elements in the fashion claimed. For the following reasons, we answer "yes" to this question.

Teetzel discloses a projectile that can be detonated by a laser beam. The projectile is fitted with an infrared detector 114 that, when exposed upon removal of cover 116, detects laser radiation emitted from the launching weapon. Upon such detection, the projectile is detonated (Teetzel, Abstract, col. 4, ll. 30-56; Fig. 1)

In our view, there is ample reason on this record to combine the teachings of Teetzel with Zak. First, as we noted previously and as the Examiner indicates, Zak envisions using a laser to control a wide variety of devices, including industrial devices (Zak, col. 27-46; Fig. 6). Indeed, Zak indicates in the Abstract that not only can the remote operator control ceiling fans, wall switches, table lamps, but also "*any other device* in need of remote controlled operation" (Zak, Abstract; emphasis added).

This broad range of applications, in our view, could reasonably encompass military applications. Indeed, Appellant has not shown why

Zak's system could not be adapted to such military applications such as a detonator. We find the Examiner's position in this regard reasonable and find no error in this approach. Furthermore, in light of Teetzel, utilizing Zak's system to actuate a detonator would have been tantamount to the predictable use of prior art elements according to their established functions -- an obvious improvement. *See KSR*, 127 S. Ct. at 1740.

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 7. Therefore, we will sustain the Examiner's rejection of that claim, and claim 16 which falls with claim 7.

The Obviousness Rejection of Claims 8 and 17

We now consider the Examiner's obviousness rejection of claims 8 and 17 over Kaje[11] in view of Official Notice, as evidenced by Perkins (Ans. 6-7). Appellant first argues that the *patent* that issued from the cited Kaje published application does not teach or suggest a laser light actuation system for remotely and selectively actuating a function of a known electromechanical gate. Rather, Appellant argues, the *patent* instead teaches activating a doorbell -- not a gate (Br. 24-26).

Although Appellant acknowledges that the Examiner cited Kaje's *published application*, Appellant nonetheless takes the position that the Examiner should have cited the corresponding patent.[12] According to Appellant, the Kaje patent deleted language in the application that was relied

[11] Unless otherwise indicated, all references to Kaje refer to the published application cited by the Examiner.
[12] *See* Br. 24 n.1 ("Since [the Kaje published application] issued as U.S. Patent No. 6,897,765, the Examiner should be citing to U.S. 6,897,765.").

upon by the Examiner in the rejection and, as such, the patent was specifically limited to a remotely activated *doorbell* (Br. 24-26).

Appellant also challenges the Examiner's use of Official Notice regarding concealing a security device in a location known only to certain individuals. Although Appellant acknowledges the Examiner's citation to Perkins in response to an earlier challenge of such Official Notice, Appellant nonetheless argues that the Examiner has not provided any motivation for modifying Kaje with Perkins, nor is Perkins analogous art (Br. 26-30).

The Examiner notes that even if Kaje's issued patent does not disclose the particular features relied upon in the patent's associated published application, the published application nonetheless remains a valid reference. As such, the Examiner contends, the published application's disclosure of an electromechanical gate was properly relied upon in the rejection (Ans. 17). The Examiner adds that Perkins amply evidences the Examiner's position regarding the known procedure of concealing a security device in a location unknown to unauthorized individuals. The Examiner further contends that not only is Perkins analogous art since it pertains to security devices for granting or denying access to a secured area, there is ample motivation to combine these teachings as proposed (Ans. 18-19).

The issue before us, then, is whether Appellant has shown that the Examiner erred in combining the teachings of the Kaje application with known procedures evidenced by Perkins to arrive at the claimed invention. The issue turns on (1) whether the Examiner's reliance on the teachings of the published Kaje application was proper; (2) whether the Examiner's reliance on Offical Notice (evidenced by Perkins) was proper; and (3) if

such reliance was proper, whether there was an apparent reason to combine the known elements in the fashion claimed.

Kaje discloses a remote control device 1 that, when actuated by a user, transmits a visually perceptible signal to a sensor 3 associated with a doorbell *or any device compatible with the remote/sensor apparatus* (e.g., garage door, spot-light, etc.) (Kaje, Abstract; ¶¶ 0016-17; Figure) (emphasis added). According to the reference, "[a]ny supported and compatible equipment (e.g. doorbell ringer, automatic door, *automatic barrier for buildings*, machine, spot light), which comprises or includes the (3) laser light sensor can be activated by any compatible (1) remote device…[T]he same remote could be used to activate *any compatible equipment*" (Kaje, text of claim 1 (emphasis added)).

We find these teachings are hardly limited to doorbells, and indeed the teaching pertaining to actuating automatic barriers for buildings amply suggests actuating an electromechanical gate via laser light, as presently claimed. Even if we assume, without deciding, that Kaje's granted *patent* does not contain these teachings (a finding that we need not reach), the corresponding *published application* is nonetheless prior art for all that it teaches. Appellant's arguments with respect to the granted patent are simply irrelevant to the document that the Examiner relied upon in the rejection (i.e., the published application) -- a document whose availability to the public is undisputed.

Before considering Appellant's challenge of the Examiner's use of Official Notice, we note that representative claim 8 does not actually require the laser receiver module to be positioned in a selectively concealed location known to a user, but merely be *adapted to be* so positioned. Since this

clause merely constitutes a functional limitation, so long as the receiver device in Kaje is capable of being so positioned, then it meets the claim. While Kaje is short on specifics regarding the receiver device, we see no reason why it would not be capable of being positioned in a selectively concealed location as claimed.

In any event, even if such selective concealment were positively recited so as to impart a structural limitation in representative claim 8, we are not persuaded of error in the Examiner's use of Official Notice. We acknowledge that an Examiner's use of Official Notice unsupported by documentary evidence should only be taken when the facts so noticed are "capable of such instant and unquestionable demonstration as to defy dispute." *See In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970) (citations omitted).

Nevertheless, we find no error in the Examiner officially noticing concealing security devices in locations known only to those who are permitted entry (Ans. 7). The Examiner merely stated what is otherwise a common-sense security practice: a routine practice in situations where knowledge of the location of a device to be secured could compromise the very security of the device or something associated with the device. This is clearly the type of well-known fact appropriate for Official Notice and Appellant has not persuaded us of error in the Examiner's approach.

In any event, the Examiner provided evidence of such a fact by citing Perkins. Although Perkins discloses a hidden drawer safe, the fundamental concept of hiding devices associated with this safe nevertheless reasonably supports the Examiner's statement of Official Notice in connection with the claimed invention. Notably, Perkins notes that both the key switch 122 and

push button switch 126 that deliver electric power to the solenoid in the safe's housing are hidden (Perkins, ¶¶ 0006-7, 0024; Fig. 10).

In our view, Perkins' teaching of hiding key activating components of the device (e.g., the switches) from view reasonably supports the Examiner's position that it is well known to selectively conceal certain security devices known only to authorized individuals. Applying such a teaching to a remote activation system, such as that disclosed by Kaje, would have been a reasonable modification for, among other things, enhancing security. As such, we find these fundamental security features reasonably combinable with those of Kaje. Additionally, even if we assume, without deciding, that Perkins is not in the same field of endeavor as Appellant's invention, Perkins' fundamental teachings pertaining to selective concealment of key activation components are nonetheless reasonably pertinent to the problems solved by Appellant, at least with respect to enhancing security via selective concealment in locations known only to certain users. As such, enhancing security via such measures in Kaje would have yielded at least the predictable results noted by the Examiner (Ans. 19), namely preventing unauthorized individuals from tampering with the device or otherwise breaching security.

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's rejection of representative claim 8. Therefore, we will sustain the Examiner's rejection of that claim, and claim 17 which falls with claim 8.

DECISION

We have sustained the Examiner's rejections with respect to all claims on appeal. Therefore, the Examiner's decision rejecting claims 1-8 and 10-17 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

KIS

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